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ABSTRACT

Designed to assist community college administrators and faculty in enhancing vocational education programs and services, this Vocational Education Resource Package presents case studies of four partnerships between California community colleges and industry and offers guidelines for developing successful partnerships. The case studies focus on: (1) Los Angeles Harbor College's (LAHC's) Process Plant Training program to train students to be process plant operators in local oil, chemical, and waste water treatment industries; (2) LAHC's partnership with Hyundai, which provides short-term training for Hyundai automotive industry personnel and LAHC students in different technical skills, and special training for Latino and African-American students recruited from South Central Los Angeles; (3) Long Beach City College's Professional Cooperation Apprenticeship Program developed with Nissan to provide special training on repairing and maintaining Nissan vehicles; and (4) El Camino College's partnership with Toyota to provide a 2 + 2 automotive mechanics program geared predominantly toward minority students. Next, key elements in school-business partnerships are discussed, including an active advisory committee, involvement of college personnel with the local community, program marketing, and financial and administrative support from the college. After noting obstacles to developing partnerships, the booklet offers examples of community college efforts to market the college to business and industry, recruit students for the program, develop cooperative education and internship programs, and evaluate the programs. Contact people at the cited programs are listed. (AC)

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VOCATIONAL EDUCATION RESOURCE PACKAGE

Industry-Education Partnerships

Prepared for the
Chancellor's Office of the
California Community Colleges

Prepared by the
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1993

VOCATIONAL EDUCATION RESOURCE PACKAGES (VERPs)

Vocational Education Resource Packages (VERPs) are made available to the California Community Colleges through a special project grant. VERPs are designed to assist community college administrators and faculty in enhancing vocational education programs and services, especially those serving special population students.

Each VERP contains information about successful program strategies and ideas currently in use in vocational education programs at the California Community Colleges. VERPs enable the dissemination of various program approaches to interested colleges, and provide resource materials to improve or develop programs which respond to local needs.

The VERPs are organized along thematic lines based on the needs of California Community Colleges. This VERP provides information on industry-education partnerships.

VERP Titles	
Industry-Education Partnerships	Partnerships with the Public Sector
School-to-Work Transitions	Multi-media Instruction
Trends in Gender Equity	Promising Practices
Career Development	Staff Development
Rural Programs	Grant Writing

TECHNICAL ASSISTANCE

The special project grant that enabled the development and dissemination of the VERPs also provided for technical assistance. **Technical assistance services and workshops are available free of charge through June 1993.** The workshops and technical assistance will be provided by community college faculty and other resource people with relevant experience and know-how to share. Should your college wish to have an on-site workshop, or should you desire additional information, please contact:

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TABLE OF CONTENTS

Background 1

Case Studies 1

Key Elements 9

Obstacles to Developing Partnerships 13

Strategies in Practice 15

Resources 19

BACKGROUND

Partnerships between business/industry and the community colleges are characterized by the combined effort of educators and business leaders in preparing the workforce of the future. The vocational education programs of the California Community Colleges present an ideal arena to develop partnerships in that they serve the special student populations that make up a vital segment of the workforce. Partnerships with industry allow vocational education programs to be more responsive to the demands of a changing economy. Such partnerships are best illustrated through examples of successful programs currently in place at community colleges in California.

CASE STUDIES

Los Angeles Harbor College: Process Plant Training

Los Angeles Harbor College is located in Wilmington, California. Approximately 30 percent of the student body is Latino, 15 percent is African-American, and 10-15 percent is Asian; the remaining students are Caucasian. The college has developed a partnership with the local oil, chemical, and waste water treatment industries in which the college's state-approved program trains and certifies students to be process plant operators in those industries. The partnership currently involves the active participation of Arco, Unocal, Ultramar, Chevron, Mobil, and the Los Angeles County Sanitation Department, with peripheral involvement from such firms as Dow Chemical. The results from the one year of full program implementation and training was the placement of five students in permanent full time positions, and another four in interim positions as process plant operators at either refineries, waste water treatment facilities or in the petrochemical field.

In the late 1980s, oil refineries and chemical companies discovered that there existed a great need for qualified process plant operators. Although there would be thousands of applicants for position openings at the plants, industry leaders found that only a small number of the applicants possessed the skills necessary for the job. The pool of technically qualified process plant operators was shrinking. Two oil companies approached Harbor College with this problem. On the advice of these companies, the college investigated the possibility of

establishing a partnership with local industry, and sent letters out to industry personnel to evaluate the environment and assess the interest of major players in developing a training program at the college. As a result of this investigation, Harbor College recognized the local industry's ongoing need to fill nearly 300 jobs each year.

Forty-five industry people attended the initial meeting to discuss creating an advisory committee and to determine what kind of program structure could best meet industry needs and serve students at the college. In the past three years the advisory committee has been whittled down to six steady members who meet monthly and are involved in every facet of program development. The committee includes industry representatives and a representative from the Oil and Chemical Workers Union. The Union is an integral component of the industry, and was very open to training future members and to being active on the committee.

The advisory committee worked to constantly narrow and define the purpose of the training and who it was to serve. It took close to two years to fully develop all of the courses for the program.
All involved in the meetings made the commitment to make progress from meeting to meeting, completing assigned tasks, or presenting requested information. The commitment to continual progress demonstrated that the college was serious about the program.

Although there was no reluctance on the part of industry to embark on this partnership, both the college and the industry partners had to go through a mutual education process in order to work well together. It took the commitment and cooperation of monthly meetings to learn working patterns and timelines, and to define the goals which would serve all involved. The incentive for industry investment was that workers would come to the companies better trained and hopefully stay longer. Formerly, when people underqualified or unfamiliar with the work were hired, employee retention was very low. The goal of the college was to provide students with opportunities, while making available to companies persons with industry background and technical skills.

The program uses industry instructors, and benefits from equipment and learning materials donated by various companies. The instruction entails nine months of training in which the students take three courses a semester. English, math, and physical science components are included. The union also provides a safety instructor to teach in the

program, reinforcing a major effort in the industry to demonstrate its commitment to safety. Industry personnel are aware of the uneasiness regarding the presence of refineries in the local community. They would like to hire more local residents, believing that local residents have a vested interest in the community and would be more attuned to safety.

Funding commitments come from within the vocational education division, Employer Based Training Grants awarded through ED>NET, and industry support. A formal scholarship campaign has obtained $5000 a year from industry foundations to cover education expenses for qualified students. Industry personnel are involved in making the selection of grant recipients as well donating the funds. The students in the program come from within the college and are trained with the technical and basic skills necessary to fill positions at the process plants within the industries involved in the endeavor. Although it will take constant nurturing to fully integrate the program into the college, the training has already shown success in that graduates have found quick placement.

The partnership is successful because industry supporters are committed and 100% involved with the project. They plan the program and want the training to continue because it impacts the future of the industry. The partnership also brings the benefit of training and job opportunity to Harbor College students. The nine month training time frame allows for a fairly quick turn-around of certified process plant operators to meet the needs of the industry, but also provides full year programming to fit the academic schedule and serve the students enrolled in vocational education. Most importantly, the program is appropriate for the area. There are numerous oil refineries in the vicinity of Harbor College and the industry is very visible to the community. Thus, the college serves the education needs specific to its own community. To conduct an equally successful program, each college must discover the industry needs specific to its own community and focus on meeting those needs.

Partnerships with the Automotive Industry

Numerous community colleges in California have developed partnerships with automotive companies which make the colleges authorized training centers for service technicians. The programs offer industry certificates

upon completion of training modules. In Southern California, Los Angeles Harbor College has a partnership with Hyundai Motor America, Long Beach City College has a program with Nissan Motor Corporation, and El Camino College has a partnership with Toyota Motor Corporation.

Harbor College/Hyundai

The partnership between Harbor College and Hyundai began to develop when the college initiated a program evaluation on its automotive department to determine whether to keep the program or terminate it. Harbor College brought in outside consultants from Hyundai and Nissan to survey the program and make suggestions. Like other successful partnerships, advisory committee contacts played an important role. One of Harbor College's advisory committee members from General Motors was under contract to work with Hyundai, which facilitated communication. Upon studying the results of the outside evaluation, the administration recognized the possibilities within the automotive division if they retooled the program and its resources. At the same time, Hyundai was looking to establish a satellite training program for technicians that would provide the same training available at Hyundai at an outside location, and perhaps at lower cost. Thus, a partnership was built from the ground up to serve both needs.

It took two years to develop the training program. Harbor College instructors were trained and certified by Hyundai, while the partners developed the training materials and technical skill modules necessary. Hyundai supplied $150,000 worth of equipment, including cars, tools and state-of-the-art training aids. In addition to the funding from Hyundai, the college used VATEA grants and curriculum development funds to finance the partnership program.

The company recognizes the benefit of such a training program and hopes to use the Harbor College program as a model to develop two or three other satellite training centers elsewhere in the United States. Hyundai is also preparing to link the college program with the company's Technical Inquiry Project which provides a computer network to assist in resolving technical or parts problems. The Technical Inquiry project provides telephone contact with a company troubleshooter if the computer cannot resolve the problem.

The cooperative program between Harbor College and Hyundai provides

training on three different levels:

- People from within Hyundai or the auto service industry in general can take short-term evening training courses that allow them to obtain the same technician's certificate offered in Hyundai's own internal training.

- Students from Harbor College can take the same short-term courses to obtain technician certificates for different skills. Since the training courses are on a four to six week accelerated schedule aimed at current industry technicians, the courses may be repeated to gain a better understanding of the material.

- In response to the Los Angeles riots, Hyundai, a Korean company, recruited students from the South Central Los Angeles community in an effort to mend racial relations. The company received assistance from the Los Angeles Unified School District in finding high school graduates to participate in the special training program. The sample consisted of 15 students, half Latino and half African-American, including three women. Hyundai pays the students for a 40-hour work week and provides them with transportation from South Central Los Angeles to Harbor College or the Hyundai site depending on their training and work schedule. The special training students also receive tutoring in basic skills. Eventually Harbor College wants to integrate the special training students into the regular program. Hyundai supplies complete funding for the special training students.

The Harbor College - Hyundai program began offering courses in the Fall of 1992. By the Spring semester 90% of the program will be in place, with 10% of course content and implementation to be resolved by the partnership advisors. The program is publicized through recruitment within the college and by communicating the opportunity to the high schools. Upon completion of training, students receive their Hyundai Service Technician Certificate. They can also enroll in other training modules to obtain, for instance, their smog certification. Hyundai then gives these newly certified technicians priority in hiring. In addition, the students are better qualified for the technician pool available to other manufacturers.

Harbor College hopes to involve other manufacturers as the program

grows since the short-term classes meet certification needs and improve the quality of the technician pool for the entire industry. Additional partners would increase financial support in terms of replacing equipment on a regular basis. Nissan Motor Corporation has been a supporter of the Harbor College service technician program through gifts of money or equipment while remaining linked with Long Beach City College in a comparable program.

Long Beach City College/Nissan

The partnership between Long Beach City College and Nissan developed in a similar fashion. Three years ago, representatives from Nissan visited the school in an attempt to set up a Professional Cooperation Apprenticeship Program (PROCAP) to create a stronger pool of technicians. The program is targeted to provide special training on Nissan vehicles to provide the dealerships with trained service technicians. Nissan provides students with a 20 hour a week paying job during the program, and offers $500 scholarships to deserving students each year. Nissan also furnishes vehicles, tools, supplies and training manuals, as well as working closely with instructors through the Nissan Training Center to constantly upgrade instructor training.

The program serves the college community which has a large Latino and Cambodian population. Program coordinators are now targeting women in their recruitment efforts in an attempt to draw more of them into the program. The college recruits students by distributing flyers and signs to local high schools, attending community activities, and circulating brochures. Nissan and Long Beach City College collaborated on a promotional campaign two years ago in which Nissan gave 41 vehicles to the college. The program coordinators then held an event on campus in which they invited 41 high schools and other institutions in the surrounding area to the college and gave each institution one of the vehicles as publicity for the program. Students from as far away as Bakersfield have inquired about the program, but being a commuter school, housing is not available. Nissan and the college are exploring the possibility of providing housing near the campus for 10 or 12 applicants from out of the area to serve their needs.

The training program has served 60 students in its three years of operation. Some students became so proficient that they left the program to work for Nissan on a full-time basis and often attended night

classes after work. Nissan encourages its employees to complete their Associate's Degree. The program coordinator contends that the key to the partnership is the support and encouragement of the company, which can only be maintained if they are satisfied with the quality of the program and its results.

El Camino College/Toyota

The partnership developed between El Camino College and Toyota also resulted from the manufacturer's high demand for trained technicians. This partnership contains a "2+2" program involving the mainly minority Centinela Valley High School District. A minority scholarship program implemented through Toyota gives qualifying students scholarships, tools, work/study programs, and vehicles for training. The program screens high school juniors interested in auto mechanics for post-graduation work/study. El Camino faculty are trained by Toyota and prepare the students with coursework. All training occurs at Toyota sites. In addition to the $500 scholarships provided by Toyota, the company gives students a $1500 tool set upon completion of the program. Toyota also offers incentive awards to the college, such as televisions or VCRs, for a job well done. The program offers the possibility of a degree and a well-paying job for the minority population while filling the company's need for technicians.

Toyota debuted its national Toyota Technical Education Network (T-TEN) in February of 1986. T-TEN is now implemented in 65 post-high school automotive programs throughout the United States. In addition to El Camino, the following California community colleges are part of the Toyota network; American River College, Bakersfield College, Cerro Coso Community College, Citrus College, Cypress College, Merced College, Riverside Community College, San Diego City College, Skyline Community College and Ventura Community College.

Toyota tries to be flexible in its various partnerships in order to adapt the T-TEN program to each college's needs and abilities. Generally, the program is incorporated into the required course work of the participating colleges' traditional two-year Associate of Science degree in automotive technology. In the first year the student takes the usual general curriculum for his or her major, as well as general electronics, general mechanics and related courses. In the second year the student may choose to enter the T-TEN program and focus on Toyota products

and test equipment. The training always includes a work-study program, tool set donation, curriculum, training materials, vehicles and scholarship opportunities provided by the company. Incentives are a key part of the program. The company sets goals and objectives for the schools which must be met before the college can receive the benefits and awards the company offers. Toyota also tries to promote a clean, professional appearance by offering monetary awards to any T-TEN school that paints the training lab and maintains the training facilities. Toyota has full-time administrators who maintain communications with the T-TEN schools. They are involved with the schools' advisory committees, serve on certification evaluation teams and generally solve local-level program problems.

KEY ELEMENTS IN A PARTNERSHIP

The best information on how to start business partnership programs comes from those community colleges already involved in successful partnerships. Key elements to developing a successful business relationship and program include:

- **An active advisory committee made up vocational education personnel and industry people from various sectors of the business community.**
- **Involvement in the local community by college administrators and faculty.**
- **Thorough knowledge of the vocational education programs and the college.**
- **Involvement in resource organizations and conferences available to educators through the Chancellor's Office and regional workshops.**
- **Marketing the partnership program in such a way that both industry and the college administrators see the mutual benefit in the partnership.**
- **Financial and administrative support from the college.**

Creating an Advisory Committee

Program administrators experienced in industry-education partnerships suggest creating an advisory committee, allowing it to be active, and responding to its suggestions. Committee members are a college's strongest resource for making contacts with business leaders, and often the best source of information on the business climate and the types of programs needed to serve students entering that climate. Active committees make suggestions to the college concerning course curriculum, content, equipment modernization, program restructuring and

any facet of the vocational education courses which can improve service to the students and the larger community. The committee gains credibility if its chairman is a business leader and its members represent various sectors of local industry. Not only do committee members know their area of industry and networking contacts for possible partnerships, they can also assist in placing students in internship or cooperative education positions.

Involvement in the Community

Involvement in the community by administrators and faculty provides opportunities for networking. In working through organizations such as the Chamber of Commerce and the Rotary Club, faculty and administrators not only publicize the college and its programs, but can collect resource materials from business, learn more about the community, identify new areas for investment which the college can explore, make useful contacts, and try to get business leaders interested in the idea of a partnership in education. The more knowledge an administrator has about the community surrounding his/her institution, the better he/she can estimate what kind of service local industry can use, what the college can deliver, and who would be willing to work on the program design. Instructors may also make visits to industries to examine more closely the possibilities of a partnership. Experienced program developers advise against becoming isolated in the world of the community college and academia. Continual interaction with the "real world" and an orientation to the business community is a vital link to program success.

Knowledge of Vocational Education Programs

Vocational education administrators/program directors should have a thorough knowledge of their vocational education programs in order to develop the most effective partnerships. With such knowledge, vocational education administrators are better equipped to match the needs of the labor market with program services. They are also more capable of evaluating any limitations in a program that would keep it from carrying out the mission of the partnership. One strategy for developing partnerships with business is to have the first attempt at a partnership involve an already strong program, so that the college is working from a position of known strengths. In addition, an understanding of the community college as a political structure is also

useful in forecasting funding problems and bureaucratic obstacles that could slow program implementation.

Involvement in Resource Organizations

Resource organizations and conferences, such as the Economic Development Network of the California Community Colleges (ED>NET), are valuable tools which educators can use to their advantage to learn more about community college participation in local economic development activities. Involvement in ED>NET conferences offers contact with other community colleges to see what programs are working around the state. Networking within the community college system through regional or statewide workshops sponsored by various colleges provides a forum for new ideas concerning industry interaction and may introduce colleges to statewide partnership opportunities. For example, the California Community Colleges sponsor an annual Fashion Symposium to feature the work of students in the fashion programs. The event is promoted within each college and the industry offers its support by judging all entries and categories in the statewide symposium.

Marketing the Partnership as a Win-Win Situation

Community college deans and program coordinators emphasize the importance of creating a "win-win" situation through the partnership program. The program must be developed in such a way that it demonstrates a mutual benefit for both parties - the community college vocational education program, and the business or industry involved. It is the job of the program coordinator to demonstrate to industry that there will be a direct impact on local business. The college must be aware of this cost-effective nature of business decision-making and work with the business partner on issues of cost of services, timeliness, and program quality. It is imperative that the college demonstrate both long and short-term benefits. Although it is important to look at the long-term impact of a better trained workforce, it is also helpful if the college can provide, for instance, certified technicians in a timely manner to help business achieve its short-term goals. Such measurable output demonstrates the value of the partnership to immediate industry needs.

The community college administrators or board of directors also need to be shown how a partnership with business is a "win-win" situation that benefits the college. To gain support for partnership ideas in the vocational education programs it is important to include administrators in the activities of the advisory committee and keep vocational education visible on campus. Knowledgeable partnership program coordinators suggest inviting college presidents and vice presidents to advisory committee meetings to gain their insights and to get them involved in the process.

The benefits to the college resulting from an industry/education partnership not only include improved services and opportunities offered to students, but also profits brought in by contract education agreements with industry. Coordinators can also highlight the possibility of defraying the cost of a program by working with an industry that may be able to supply equipment or cover much of the cost of the program through contributions. For example, **Allan Hancock College** has implemented a Welding Tech Training Center in which welding companies help develop and maintain curriculum, equipment, and materials in exchange for students conducting field tests on emerging welding equipment. In addition, the companies provide for the training of instructors, and suppliers cover the cost for instructors' travel and time away.

Financial and Administrative Support

Finally, a college's success in developing partnerships with business comes down to the basics of administrative (staff) and financial support. The barriers to partnerships cited most often by program coordinators were lack of adequate funding and insufficient personnel to pursue industry leads and implement program plans. Constricted budgets and recessionary economics make overcoming such obstacles troublesome. Coordinators look to private industry in such instances to help pay a portion of a program coordinator's salary, or cover a majority of the program financing. The resourcefulness of program coordinators is constantly put to the test by the need to find creative funding mechanisms, for without appropriate monetary support and staff assistance, developing and maintaining a successful partnership with industry is difficult.

OBSTACLES TO DEVELOPING PARTNERSHIPS

The success of numerous education/industry partnerships has been achieved in light of certain obstacles. Common barriers in developing programs which need to be worked through by program coordinators follow:

- Lack of program financing. Program coordinators attempt to secure monetary support from Chancellor's Office grants, trustee grants, state and federal grants, VATEA, and any available college funds. Coordinators look to employer or industry contributions for any materials or services which facilitate program start up and implementation.

- Lack of staff support necessary to develop the partnerships and carry out the programs in an efficient manner.

- New rules for hiring instructors which require that the instructor have an associate's degree in order to teach a course. Some vocational education instructors may not have their associate's degree, but know their field or skill well. The requirement keeps experienced instructors out of the community college environment at the expense of the vocational education programs.

- College service area boundaries which limit flexibility. Each college has its own service area boundaries which it cannot cross. In a contract education situation such boundaries make it difficult for a company to use a college's services if the company is out of the service area. There is a statewide committee on interdistrict delivery which is attempting to address the issue, but currently there is little latitude on the boundary rule.

STRATEGIES IN PRACTICE

Marketing the College to Business/Industry

Various methods have been implemented by the California Community Colleges to market programs to business in order to build key partnerships. The following suggestions were made during interviews with community colleges:

- Cultivate the business contacts of faculty and the advisory committee.
- Conduct telephone interviews with local businesses.
- Launch publicity campaigns involving the direct mailing of flyers and brochures to firms. Many colleges use the resources at the Chamber of Commerce to obtain a listing of local business addresses.
- Advertise in publications/newsletters aimed at the particular industries with which you hope to develop a partnership.
- Have the faculty attend trade shows to publicize vocational education programs, and conduct an open house on campus to invite business leaders to the college.

Southwestern College holds an annual employer recognition breakfast and invites the advisory committee as well as industry personnel involved in cooperative education or other vocational education programs. The breakfast is used not only to thank the invitees for their support, but also to cement partnerships. **Southwestern** also conducts strategic planning forums to give the business community the opportunity to voice opinions and suggest avenues to pursue vocational programs. It is important in every opportunity for interaction with business leaders that program developers stress the benefits of developing a partnership with the college, acknowledge the stated needs of an industry, and convey the importance of industry involvement in the development of the workforce.

Recruiting Students for the Programs

Success in recruiting students into the programs will determine whether the partnership program is worth sustaining. Some strategies for recruiting students include:

- Creating monthly bulletin board displays which advertise a different vocational education program each month.

- Distributing program brochures from the counselor's office, and contacting local high schools through faculty visits, classroom presentations, and articulation agreements.

- Utilizing resources from within the college. **Foothill College** uses students for recruitment. The college conducts quarterly information meetings in which students from within the program market it to other students. In addition, students can receive credit for their recruitment successes. The **College of San Mateo** utilizes students in the Broadcasting Arts division. The students have created public service announcements (PSAs) for four of the vocational education programs, and have aired them on the college television station. PSAs are also being developed for college radio. Some colleges suggest sending the PSAs to major stations in the community even if it requires a financial investment.

- Bringing new people onto the campus. **Cuyamaca College** holds a Women's Opportunity Week in the fall and a Single Parent Conference in the spring to attract people to the campus, and then uses the opportunity to tell the visitors about various programs which might interest them.

- Co-host events with your industry partner. IBM assists **Irvine Valley College** by setting up a program display on campus and distributing information to elicit student interest in the partnership.

Cooperative Education/Internship Programs

Some suggestions for developing and implementing successful cooperative education or internship programs within an industry partnership include:

- Giving the student course credit or helping develop paid working experience opportunities.

- Including work experience as a requirement within the discipline.

- Working with students to create objectives for the position, requiring a paper for the course, and conducting a semester evaluation which involves input from the student's manager at work. This gives the job accountability within the college.

- **Foothill College** tries to add more to the "on the job training" by including workshops on stress management, job hunting, and business etiquette skills to its cooperative education program.

- Networking with former students who are currently working in the pertinent fields to develop internship programs.

- Looking to the Advisory Committee for assistance in placing students in internship positions.

- Sharing power and decision making between the college program coordinator and the corporate entity offering the positions.

Evaluation Measures

Effective evaluation measures help weigh the impact of the business partnership programs. Often results such as high post-program job placement rates, or renewed contracts/partnership agreements with industry demonstrate the positive impact of a successful program. Therefore, instead of using formal evaluation methods at the end of the semester, college program implementors often study the resources and opportunities the program brings to the college, and then look to the results to estimate program impact. When more formal methods of evaluation are used they include the following:

- Surveying employers to measure student performance in cooperative education arrangements.

- Surveying students to evaluate program usefulness, instructor performance, and the students' impression of the experience as a whole.

- In contract education, each individual training session, whether it last an hour or a year, can be evaluated by the participants for relevance to the job in question and benefits received from the training. The evaluation should look at the results of the training in terms of improved employee retention or increased competitiveness within the field to measure the impact of the program.

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